Fact Sheet - October 1999

United States Environmental Protection Agency

US Army Corps of Engineers
New England District

Long Island Sound Dredged Material Disposal EIS

Data Review and Recommendations

Literature Review

In order to provide baseline information and guide the scope of the Environmental Impact Statement (EIS), literature has been reviewed to identify research, proposed studies, data and any other appropriate information from the Long Island Sound region relevant to dredging, dredged material disposal and potential impacts on resources.

Three products of this effort are listed below.

Dredged Material Disposal Site Evaluation Report (USACE November 1998). This initial report focused on the historical disposal sites and evaluated their interim use under the Marine Protection Research and Sanctuaries Act (MPRSA).

Long Island Sound Dredged Material Disposal Database (USACE July 1999). This ongoing effort to identify and evaluate available literature for the entire LIS region will result in an online database that will be available on the project website in the Fall of 1999.

Dredged Material Disposal Site Data Review and Recommendations (USACE September 1999). This report reviews the existing documentation and data sources for the four existing disposal sites to determine if any supplemental data collection or field sampling is required to adequately and comprehensively address the needs of the EIS effort.

Data Needs

Four Priority Areas

Open water disposal site alternatives will be identified through a site screening process. As a first step in this process four types of data were identified for priority. A review of existing data for the four existing sites and the input from the June 1999 Public Scoping Meetings revealed data needs in the following areas:

- *Sediment chemistry:* Distribution of contaminants of concern in sediments at, and immediately around, each active disposal site in LIS.
- *Tissue chemistry:* Distribution of contaminants of concern in tissue of benthic invertebrates, shellfish (including lobsters) and finfish at, and immediately around, each active disposal site in LIS.
- *Physical oceanography:* Physical oceanographic data from LIS that may be applicable to disposal site designation, including general circulation, wave, and current information, relevant to each active disposal site.
- *Fishing resources and activities:* Commercial and recreational fisheries resources and activities in proximity to the active disposal sites in LIS, including any baseline fish/shellfish/lobster data and commercial/recreational fishing activities.

Sampling Recommendations

Sediment Chemistry

The outline of sediment chemistry sampling was based on a need to evaluate baseline conditions and assess potential impacts of disposal activities, including the need to determine if site boundaries are sufficient to contain projected volumes to be disposed (20 year projection).

The sampling plan was based on the following concept: within Long Island Sound there are readily identifiable areas of seafloor (based on historical records and sidescan sonar survey results) that will be used in evaluating baseline conditions at the four existing disposal sites (WLIS, CLIS, CSDS, NLDS). The sampling areas proposed for each site are:

Historical: areas that received dredged material prior to the onset of testing requirements in 1979

Active: areas that have received dredged material deemed suitable for open-water disposal

No Impact: areas that should have no discernible impact from the disposal of dredged material

Far Field: areas outside of existing site boundaries suitable for evaluating far field effects of disposal.

Exact locations of each area for each proposed disposal site will be determined after consultation of existing bathymetric, sediment chemistry and sidescan sonar data (DAMOS, USGS, USEPA). The numbers of samples collected should be determined by power analysis based on a statistical comparison of available data from each area.

Samples would be collected with a modified Van Veen grab sampler for the full depth of the grab (up to 10 cm) and would be frozen for future analysis. Analytes would be determined after review of existing data, but suggested analytes include trace metals, PAHs, PCB cogeners, pesticides, simultaneously extracted metals/acid volatile sulfides (SEM/AVS), dioxins/furans, grain size, and Total Organic Carbon. Synoptic samples for benthic community analysis and sediment toxicity also will be collected or archived, as appropriate.

It is expected that the results of the sediment chemistry reconnaissance survey would help define sampling strategies for benthic tissue, benthic community analyses and toxicity testing in follow-up surveys.

- *Lobsters:* Lobsters collected in the vicinity of the sites will be purchased from commercial fishermen for chemical analysis.
- *Finfish*: During the Connecticut Department of Environmental Protection (CTDEP) fall trawl survey, staff will collect and prepare samples for chemical analysis. The following species are targeted for collection: winter flounder, or summer flounder if winter flounder is not available, tautog, and bluefish. Previously identified sampling grids for each study area will be used. Since the CTDEP does not trawl at WLIS, we will purchase tautog and other species caught incidentally in lobster pots by commercial fishermen in the WLIS area.
- *Molluscan Shellfish:* If channeled whelk is collected in the lobster traps or during the CTDEP trawls, samples would be taken for bioaccumulation analysis of this species.

Physical Oceanography

Physical oceanographic data (currents, waves, temperature, salinity, etc.) are used to evaluate the circulation patterns and degree of water movement in the Sound. This information is used to assess the behavior of sediments during disposal activities (dilution and dispersion of the sediment plume) and potential for short and long term erosion and sediment transport. Existing data, such as the NOAA National Ocean Survey and State University of New York, Stony Brook and the DAMOS data sets from Long Island Sound, will be reviewed to define future data collection needs for future Acoustic Doppler Current Profiler (ADCP) deployments.

Fishing Resources and Activities

Finfish Resource: Since 1984, the CTDEP has maintained a database on fisheries throughout LIS, based on annual spring and fall trawl surveys. Although the specific disposal site areas were avoided in these surveys the data are useful to define species composition and catch per unit effort (CPUE) in the vicinity of CLIS, CSDS and NLDS. However, the CTDEP has not trawled in the vicinity of WLIS because of the density of lobster traps and "hangs" in the area. Therefore, we plan to collect samples of fish in the study area using other survey techniques. In addition we will survey commercial and recreational fishermen including head boat operators who fish in close proximity to WLIS in order to obtain site-specific data on species composition.

Lobster Resource: As discussed above for lobster tissue, we intend to work with lobstermen who fish in the vicinity of the site study areas in order to assess the fishery within these areas. Lobster traps modified with fine mesh and no escape vents will be used to collect juvenile and sublegal lobsters in order to assess life stage use of these sites. The use of such traps will require collection permits from NY and CT.

Fishing Activities: Surveys will be conducted with commercial and recreational fishermen to further define the type and amount of fishing effort, including gear used, in the disposal site study areas. To supplement the interview information, aerial surveys of lobster pot buoys will be conducted to broadly assess pot density during the peak effort period.

For more information, please contact Ann Rodney, US EPA, 1 Congress Street, CWQ, Boston, MA 02114-2023 (617) 918-1538 rodney.ann@epa.gov or visit our website at www.epa.gov/region01/lisdreg.